

Comparisons of Job Characteristics

Focus Occupation: **Chemical Engineers (17-2041)**

Associated Occupation: **Engineers, All Other (17-2199)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Chemical Engineers (17-2041)

Associated Occupation: Engineers, All Other (17-2199)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	20.1	24.1	>>	Current knowledge level is likely more than sufficient
Mathematics	9.2	17.1	19.4	>	Current knowledge level is likely sufficient
Design	5.2	16.5	15.2	0	Current knowledge level may be sufficient
Computers and Electronics	8.4	15.0	12.7	<	Expanded education and/or training may be required
Physics	4.3	14.8	16.9	>	Current knowledge level is likely sufficient
Mechanical	6.8	14.0	11.5	<	Expanded education and/or training may be required
Production and Processing	6.0	12.9	15.4	>	Current knowledge level is likely sufficient
Building and Construction	4.0	6.6	5.7	<	Expanded education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 84

Focus Occupation: Chemical Engineers (17-2041)

Associated Occupation: Engineers, All Other (17-2199)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mathematics	6.2	12.8	14.7	>	Skill level is likely sufficient
Systems Analysis	6.5	11.7	14.1	>	Skill level is likely sufficient
Science	4.5	11.4	18.0	>>	Skill level is likely more than sufficient
Systems Evaluation	6.4	11.1	13.4	>	Skill level is likely sufficient
Operations Analysis	5.0	10.8	13.5	>	Skill level is likely sufficient

Technology Design	2.6	7.9	8.5	0	Current skill level may be sufficient
Equipment Selection	3.3	6.3	5.8	0	Current skill level may be sufficient
Programming	2.2	5.3	5.4	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 98			
Focus Occupation: Chemical Engineers (17-2041) Associated Occupation: Engineers, All Other (17-2199)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Comprehension	11.0	15.1	15.0	0	Current ability level may be sufficient
Deductive Reasoning	10.6	15.0	15.2	0	Current ability level may be sufficient
Inductive Reasoning	10.2	13.7	14.6	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	13.4	14.2	0	Current ability level may be sufficient
Information Ordering	9.9	13.2	15.1	>	Current ability level is likely sufficient
Category Flexibility	9.0	12.3	15.2	>	Current ability level is likely sufficient
Originality	7.6	11.8	13.0	>	Current ability level is likely sufficient
Visualization	7.5	11.7	11.7	0	Current ability level may be sufficient
Number Facility	6.3	11.6	13.4	>	Current ability level is likely sufficient
Fluency of Ideas	7.6	11.4	11.6	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

There are no common work activities.

Tools and Technologies that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 76
Focus Occupation: Chemical Engineers (17-2041) Associated Occupation: Engineers, All Other (17-2199)		
Tools and Technologies	Exclusivity	
Business function specific software	1	
Chromatographic measuring instruments and accessories	16	
Computers	1	
Content authoring and editing software	1	
Data management and query software	1	
Development software	4	
Finance accounting and enterprise resource planning ERP software	2	
Gas analyzers and monitors	10	
Industry specific software	1	
Integrated circuits	18	
Laboratory centrifuges and accessories	13	

Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory mixing and stirring and shaking equipment and supplies	19
Pharmaceutical industry machinery and equipment and supplies	31
Spectroscopic equipment	10
Viewing and observing instruments and accessories	4

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.